

# Patent Abstracts of Japan

PUBLICATION NUMBER : 61247083  
PUBLICATION DATE : 04-11-86

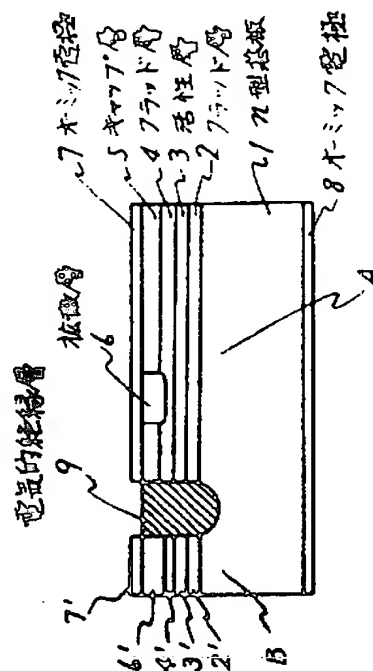
APPLICATION DATE : 24-04-85  
APPLICATION NUMBER : 60087903

APPLICANT : NEC CORP;

INVENTOR : KATAYAMA SHOJI:

INT.CL. : H01S 3/18

TITLE : SEMICONDUCTOR LASER



**ABSTRACT :** PURPOSE: To make it possible to accurately measure the forward direction voltage for obtaining the temperature of an element and to obtain an accurate thermal resistance by a method wherein a diode section where direct and weak current is to be made to flow is formed on a section where the temperature rise is measured separately from the light-emitting region to measure the temperature with direct current.

**CONSTITUTION:** An electrically insulated layer 9 is partially formed from the surface of the P side to the substrate with chemical etching method to form an electrically independent diode B within the same element other than a diode A where the light-emitting section directly below a Zn diffusion layer 6. Therefore, it is possible to accurately measure the forward direction voltage by feeding a weak current with direct current for measuring the temperature of an element to the diode B while feeding a normal driving current to the diode A. Moreover, it is not required to change current from the large current for increase the temperature of the element to the small current for measuring the temperature of the element, thereby simplifying the measuring circuit and providing a low-price thermal resistance measuring instrument.

COPYRIGHT: (C) JPO